

REMARKS

Reconsideration and allowance of the above-identified Application in view of the foregoing amendments and following remarks is respectfully requested.

Claims 1, 2, 4-8 and 10-68 are pending in the Application. Claims 3 and 9 have been canceled herein without prejudice or disclaimer. Claims 10, 11 and 13-68 have been withdrawn from consideration. Applicants have amended claims 1, 2, 4, 6-8 and 12 to ensure that none are interpreted as reciting any means-plus-function limitations.

Claim Rejections – 35 U.S.C. § 102

The Examiner rejected claims 1, 3, 4, 8, 9 and 12 under 35 U.S.C. § 102(b) as being anticipated by Hamm (US Patent No. 5,872,879). Applicants respectfully traverse this rejection for at least the following reasons.

Applicants have amended claim 1 to include the subject matter from claim 3, so now the final clause reads “wherein, at the time of connecting said optical probe and said observation device by said mounting structure, said fiber end fixing member comes into close contact with said optical connecting member due to the elastic structure of said optical probe, thereby performing optical connection, and any of said fiber end fixing member, elastic structure, and rotational force transmitting member has a gap enabling parallel movement of mutual rotational axes, in a diameter direction of the rotational axes.”

By providing an elastic structure, the fiber end fixing member comes in close contact with the optical connecting member and this allows, for example, the rotational force to be transmitted efficiently and smoothly and allows flexibility in bending while maintaining a good transmission of light.

In contrast, Hamm merely discloses a connection system having a rotatable optical fiber, an assembly having a conduit for conveying a light beam to the rotatable fiber. The rotatable fiber 113 is rotated by a motor assembly that includes motor 106. A stator fiber 101 is provided. The stator fiber 101 is aligned with stator grin rod lens 102. The stator fiber 101 and stator grin rod lens 102 are held in close proximity with rotor grin rod lens 104 and rotatable fiber 113. A force is applied to keep rotor grin rod lens 104 and stator grin rod lens 102 in close proximity with each other during rotation. This contact maintains proper gap 118 between stator grin rod lens 102 and rotor grin rod lens 104. See, col. 3, line 63 through col. 4, line 65 and Figure 4 in Hamm.

Therefore, Hamm merely uses a rigid rod (a rotor grin rod lens to transfer the rotation to the rotatable fiber 113) and does not use a flexible shaft. Therefore, Hamm does not disclose, teach or suggest, *inter-alia*, “said fiber end fixing member comes into close contact with said optical connecting member due to the elastic structure of said optical probe, thereby performing optical connection,” as recited in claim 1. Furthermore, the gap 118 in Hamm is merely a gap between the stator grin rod lens and the rotor grin rod lens. The gap 118 in Hamm is not “a gap that enables parallel movement of the mutual rotational axes, in the diameter direction of the rotational axes,” as recited in claim 1.

Moreover, Hamm does not disclose, teach or suggest, *inter-alia*, “a fiber comprised of single mode fiber, provided within said flexible pipe member, with a base portion and a tip portion thereof being fixed to a base and a tip of said flexible pipe member, such that light cast from a low-coherence light source is cast into the base end thereof,” as recited in claim 8 and Hamm does not disclose, teach or suggest, *inter-alia*, “an elastic structure provided between said base portion fixing member and said rotational force transmitting member, to press said base portion fixing member against the base side thereof in an elastic manner,” as recited in claim 12.

Therefore, Applicants respectfully submit that claims 1, 8 and 12, and claim 4 which is directly dependent from claim 1, are patentable and respectfully request that the rejection of claims 1, 4, 8 and 12 under § 102(b) be withdrawn.

Claim Rejections – 35 U.S.C. § 103

The Examiner rejected claims 1-9 and 12 under 35 U.S.C. § 103(a) as being unpatentable over Tearney et al. (US Patent No. 6,134,003). Applicants respectfully traverse this rejection for at least the following reasons.

Claim 1 has been amended to include the limitations of claim 3.

The Examiner contends that the air gap or fluid medium in Tearney et al. would allow movement. Applicants respectfully submit that Tearney et al. does not disclose or suggest at least “a gap enabling parallel movement of mutual rotational axes, in the diameter direction of the rotational axes,” or “the housing is movable in the direction of the rotational axis of the fiber end fixing member,” as recited in claim 1. By providing an elastic structure, the fiber end fixing member comes in close contact with the optical connecting member and this allows, for example, the rotational force to be transmitted efficiently and smoothly.

In contrast, in Tearney et al. the axis of the optical fiber connector coincides with the power transmitting axis and in this case it is difficult to maintain the optical characteristic and to transmit the power smoothly. If the power is not transmitted smoothly, any distortion in the optical fiber will result in distortion in the image transmitted.

Similarly, Tearney et al. does not disclose, teach or suggest “said housing mounting structure connects to said observation device, such that the housing is movable in the direction of the rotational axis of said fiber end fixing member, and said mounting structure is adapted to mount said fiber to said optical connecting member is provided to said fiber end fixing member of said optical probe, and said rotational driving device of said observation device rotates said optical connecting member, “ as recited in claim 8.

Tearney et al. does not disclose, teach or suggest “wherein any of said base portion fixing member, said elastic structure and said rotational force transmitting member has a gap enabling parallel movement of mutual rotational axes in the diameter direction of the rotational axes, and in the state that the base portion of said optical scanning probe is mounted to said observation device by said mounting means, said elastic structure presses said base portion fixing member against said optical connecting member, thereby performing optical connection,” as recited in claim 12.

Therefore, Applicants respectfully submit that claims 1, 8 and 12, and claims 4-7 which are dependent from claim 1, are patentable and respectfully request that the rejection of claims 1, 2, 4-8 and 12 under § 103(a) be withdrawn.

CONCLUSION

In view of the foregoing, the claims are now in form for allowance, and such action is hereby solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

HORII ET AL. -- 09/398,366
Client/Matter: 041050-0264018

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Henry J. Daley", is written over the printed name.

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